

Response
Serial No. 09/175,522
Page 2

Amendments to the Claims

Please cancel claims 1-8 and 16-17 without prejudice.

Please add claims 22-28.

Please amend claims 9-15, 18 and 20 as follows:

1-8 (Cancelled)

9. (Currently Amended) ~~The apparatus of claim 8 wherein the synchronization distribution unit further comprises~~ A system for providing optical synchronization signals to a telecommunications network comprising:

a central synchronization management unit for distributing optical synchronization signals, and

at least one synchronization distribution unit adapted to receive said optical synchronization signals and to distribute the signals to at least one network element, each of said at least one synchronization distribution units including:

a passive optical input port adapted to receive said optical synchronization signals and to split each received optical synchronization signal into a first optical synchronization signal, which is communicated to an optical output of said synchronization distribution unit, and a second optical synchronization signal to be communicated to an active optical input port of the synchronization distribution unit; and

said [an] active optical input port configured to receive [an] optical synchronization signals clock signal; and a from said passive optical input port and from the output t of a passive optical input port of a previous synchronization distribution unit, if any, and to select one of said received optical synchronization signals to communicate to an included clock recovery system configured to perform clock recovery on an optical clock signal received at either the active or passive optical input port said selected optical synchronization signal.

Response
Serial No. 09/175,522
Page 3

10. (Currently Amended) The system apparatus of claim 9 wherein the clock recovery system is configured to receive optical clock signals from said active optical input port and from said passive optical input port and to perform clock recovery on an optical clock input from a selected one of the active and passive optical input ports.

11. (Currently Amended) The system apparatus of claim 10 wherein the synchronization distribution unit further comprises an alarm and optical system processor for determining which one of signals received from the active and passive optical input ports to perform clock recovery on.

12. (Currently Amended) The system apparatus of claim 11 wherein the synchronization distribution unit further comprises electronic output drivers for converting an optical signal upon which clock recovery has been performed into an electronic clock output signal for provision to a telecommunications network element.

13. (Currently Amended) The system apparatus of claim 10 wherein the synchronization distribution unit includes passive and active optical output ports, the active output port being configured to receive the optical clock signal upon which clock recovery has been performed, the passive optical output port being configured to receive the optical clock signal split at the passive optical input port and routed to an optical output.

14. (Currently Amended) The system apparatus of claim 10 further comprising a second synchronization distribution unit connected in series with the synchronization distribution unit connected to receive synchronization signals from the central synchronization management unit, the second synchronization distribution unit configured to receive synchronization signals from the

Response
Serial No. 09/175,522
Page 4

synchronization distribution unit connected to receive synchronization signals from the central synchronization management unit.

15. (Currently Amended) The system apparatus of claim 14 wherein synchronization distribution units connected in series are cross-coupled, such that the active output of an upstream synchronization distribution unit is coupled to the passive input port of the next downstream synchronization distribution unit in the series and the passive output of the upstream synchronization distribution unit is coupled to the active input port of the next downstream synchronization distribution unit in the series.

16-17 (Cancelled)

18. (Currently Amended) ~~The method of claim 17 wherein the central synchronization management unit produces two clock output signals from the selected one of the plurality of clock signals received by the central synchronization management unit in step (a), and transmits one of the clock output signals~~ A method of distributing synchronization signals in a telecommunications office comprising the steps of:
(a) receiving a plurality of clock signals at a central synchronization management unit and selecting one of said plurality of received clock signals for recovery;
(b) retiming the selected clock signal and splitting the retimed clock signal into a first clock signal and a second clock signal;
(c) communicating said first clock signal over an optical link to an active input port of the a synchronization distribution unit and transmits the other of the clock output signals communicating said second clock signal over an optical link to a passive input port of the synchronization distribution unit;
(d) selecting said first clock signal or said second clock signal for recovery at the synchronization distribution unit, and

Response
Serial No. 09/175,522
Page 5

(e) transmitting the selected clock signal from the synchronization distribution unit to a telecommunications network element.

19. (Original) The method of claim 18 further comprising the step of selecting by an synchronization distribution unit of one of the passive and active optical input clock signals to transmit to a network element.

20. (Currently Amended) The method of claim 18 [19] wherein the selected clock signal is converted from an optical to an electrical signal before transmission to the network element.

21. (Original) The method of claim 20 wherein a plurality of synchronization distribution units are connected in series, with the passive output port of an upstream synchronization distribution unit coupled to the active input port of a downstream synchronization distribution unit and the active output port of an upstream synchronization distribution unit coupled to the passive input port of a downstream synchronization distribution unit, each synchronization distribution unit performing clock recovery on the synchronization signal received at its active input port.

22. (New) The system of claim 9 wherein the optical synchronization signals are optical clock signals.

23. (New) The system of claim 9 wherein the central synchronization management unit comprises:

- an input port for receiving clock signals; and
- an optical processor for producing optical clock signals.

24. (New) The system of claim 23 wherein the central synchronization management unit further comprises:

Response
Serial No. 09/175,522
Page 6

a processor for retiming said clock signals received at said input port.

25. (New) The system of claim 23 wherein the input port is equipped to receive clock signals from a plurality of clock sources.

26. (New) The system of claim 25 wherein the central synchronization management unit selects one of a plurality of input clock signals as a primary clock output signal.

27. (New) The system of claim 25 wherein the central synchronization management unit produces a plurality of optical clock output signals.

28. (New) The system of claim 9 wherein a plurality of synchronization distribution units are connected in series, with the passive output port of an upstream synchronization distribution unit coupled to the active input port of a downstream synchronization distribution unit and the active output port of an upstream synchronization distribution unit coupled to the passive input port of a downstream synchronization distribution unit.